

A NOTE ON MARINE PISCICOLID LEECHES FROM PORT PHILLIP BAY, VICTORIA¹

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(Figure 1)

The following gives the first records for continental Australian waters of two species of marine fish-leeches recognized previously in Tasmania by Ingram (1957). One, *Branchellion parkeri*, shows an intermediate phase in the development of the colour pattern; the other, *Austrobdella bilobata*, provides a more detailed description of the somital annulation than was given by Ingram.

In preparing an annotated list of the Australian leeches (Richardson, 1968), no records were found of marine leeches from Port Phillip Bay, although such are contained in the collections of the National Museum of Victoria. In 1967, I noted 6 vials. Four hold 3-annulate pontobdellids taken between 1892 and 1902; three (G.854, G.855, G.858) noted as from the Port Jackson Shark, *Heterodontus portusjacksoni*, and two of these from Mordialloc, in the Bay. Moore (1957) identified 5 specimens of a pontobdellid taken from this host off Hobart, Tasmania, as *Pontobdella rayneri* Baird 1869, a species based originally on a single small specimen taken from *Rhinobatis* sp. at Shark's Bay, W. Australia, and described by Baird in a simple and inadequate manner. Johansson (1911) assigns to *rayneri*, another small specimen taken from the same host at Shark's Bay. Moore describes the Tasmanian specimens only as "agreeing with Johansson", i.e. a 3-annulate pontobdellid with a clitellum of 5 tuberculate annuli, and gives no further details. Llewellyn (1966) has studied Baird's type, reports the condition does not permit improvement on his description, recognizes the leech as "almost certainly a member of the genus *Stibarobdella*" and reduces *rayneri* to the status of genus et species inquirenda. Llewellyn gives no indication that he has seen Johansson's account. In brief, even at this time, the Port Jackson pontobdellid has no established zoological status.

Of the other two vials, one (G.857) contains a *Branchellion* from Mordialloc; the other (G.859), a piscicolid from '*Pleuronectes*'. These may possibly be referable to the following species.

Branchellion parkeri Richardson 1949 (Fig. 1, A.)

A single specimen, 26.0 mm. in total length, taken by Mr. T. Lewis on the Elephant Shark, *Callorhynchus milii*, Port Phillip Bay, sent to me by Dr. J. C. Pearson of the Department of Parasitology, University of Queensland. (Dep.: Nat. Mus. Vic. G.1539).

The anterior sucker is as long as wide, 2.0 mm., set off from the pregenital region which is subcircular in section, 5.0 mm. long and separated by a well-formed prepuce from the abdomen. The abdomen is 18.0 mm. long, with a maximum width of 4.0 mm; the centrally attached posterior sucker, large, deeply cupped, 4.0 mm. wide, prominently and richly clad on the ventral surface with small low attachment discs. Extended, with the annulation poorly defined on the pregenital region; but ventrally, $xiii\ a_1 < a_2 > a_3$, with the first pulsatile vesicle quite submarginal on a_2 which has a furrow on it dividing it into ($b_2 > b_3$); the first pair of gills on $xiii\ a_3$; xiv to $xxii$, 3-annulate, the annuli subequal, branchiate, and a pair of pulsatile vesicles submarginal on a_2 of each somite; $xxiii$, 3-annulate, each annulus with a pair of gills, but no pulsatile vesicles; so that there are 31 pairs of gills and only 10 pairs of pulsatile vesicles. Somites $xxiv$ and xxv appear undivided; the anus at $xxv/xxvi$; and $xxvi$ and $xxvii$, undivided.

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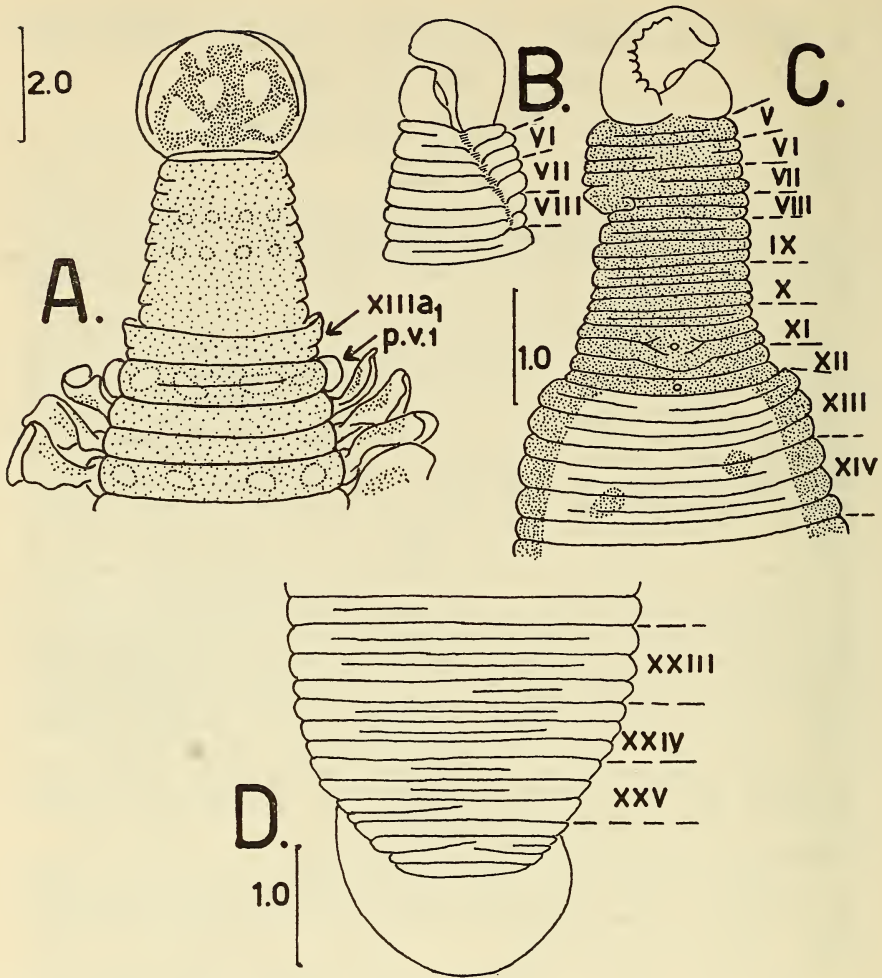


Figure 1.—A., *Branchellion parkeri* Richardson 1949. Anterior sucker and portion of body to show distribution of pigment, and pattern. Pregenital indications of annulation, non-morphological.

B. *Austrobdella bilobata* Ingram 1957. The dorsal aspect of the anterior sucker and first few somites showing division of the sucker and extent of the wound.

C. *A. bilobata*. Ventral aspect of anterior sucker, pregenital, genital and anterior abdominal somites, showing annulation, distribution of pigment, and pattern.

D. *A. bilobata*. Dorsal annulation of posterior abdominal somites. Somites indicated by roman figures; annuli, a₁, a₂, etc.; p.v. 1, first pulsatile vesicle. Scales in mm.

The dorsum of the anterior sucker shows a pattern transitional between the two simple concentric rings of smaller specimens and the large simple patch of larger specimens. There is a median longitudinal band connected anteriorly and posteriorly and by anteriorly directed oblique bands midway along its length, to a single circular band which has a median and two anterolateral marginally directed processes. The pigmented dorsum of the pregenital region carries two transverse rows each of 4 well-defined circular patches, as also on $xiii\ a_3$, and on the a^2 of somites back to $xxii$ behind which the dorsum is plain; the dorsum and venter of the sucker and the venter of the entire body, immaculate white.

Previously (Richardson, 1968) the only information was that the types of *Branchellion lineare* Baird 1869 and *B. punctatum* Baird 1869, both from King George Sound, Western Australia, were no longer available. The descriptions were inadequate in such manner that the species could be given no zoological standing. Mr. R. W. Sims, Annelida Section, British Museum (Natural History) advises me (Pers. Corresp.) the types have been located and are in good condition.

B. parkeri is recognizable in the fauna as known, by the absence of tuberculations; the presence of transverse rows each of 4 white patches on the dorsum of neuromeric annuli; 31 pairs of gills; and only ten pairs of pulsatile vesicles, the first on $xiii\ a_2$ anterior to the first gill, the last at the base of the 27th gill, the 5th last in the series, on $xxii\ a_2$.

The species was recorded originally in New Zealand from *Squalus acanthias*, later from *Mustelus antarcticus*, *Dasyatis brevicaudatus*; *Callorhynchus milii*, (Richardson, 1949, 1953); in Tasmania (Ingram, 1957) from *Raia lemprieri*, *Pristiophorus sp.*, and *Dasyatis sp.*

Austrobdella bilobata Ingram 1957 (Fig. 1, B, C, D).

A single specimen taken November 16, 1969 by Mr. C. Goode on a young flounder 40.0 mm long in 9 to 12 inches of water in Port Phillip Bay at Frankston. Sent me by Mr. John Goode of Frankston. (Dep.: Nat. Mus. Vic. G.1540).

The total length, 13.0 mm; the anterior sucker, hood-like, damaged (v.i.) but apparently as long as wide, sharply set off from the subcylindrical pregenital region which is 2.3 mm long by 1.5 mm wide; the genital region, short, wider than long; a well-formed prepuce; the abdomen, depressed, flat above and below, with narrowly rounded margins, 9.5 mm long and 3.0 mm wide; the posterior sucker, circular, 2.0 mm in diameter, smooth on the ventral surface.

Strongly pigmented; the anterior sucker paler than the dark bluish grey on all aspects of the pregenital and genital regions and on the dorsum and margins of the abdomen; the venter of the abdomen with bluish grey margins, and otherwise whitish with spaced and moderately numerous medium sized bluish grey maculae; the sucker pale grey above and light below where it shows regularly spaced minute marginal pigment spots.

There are no papillae, tubercles, or obvious somital sense organs; the skin, smooth in all regions; no pulsatile vesicles.

There are no eyes or indication of annulation on the anterior sucker. The first few annuli of the pregenital region are damaged and erratic above, but below there is agreement with Ingram's description where the first 8 annuli are simple, the 9th subdivided incompletely, the 10th, simple, and following annuli subdivided.

Somital limits are uncertain for v, (possibly $a_{1a_2+a_3}$), as also vi; vii apparently, and viii definitely both 2-annulate; ix 3-annulate, $a_1(b^1+b_2) > a^2 = a_3$ below; x, 3-annulate, $a_1(b^1+b^2) > a_2 = a_3$; xi, 3-annulate, $a_1(b^1+b^2) = a_2 < a_3$, and the male pore at a_2/a_3 ; xii, 2-annulate, $a_{1a_2} = a_3$, the female pore median in a_3 , so that there are five annuli in the clitellum and two full annuli between the genital pores; xiii to xxiv, 3-annulate, with the somital limits recognizable above and below by the incomplete division of a_1 and a_2 by fine furrows lacking from a_2 which is simple, i.e. $a_1(b^1+b^2)$ subequal to a_2 (b_3+b_4) $> a^3$

which may show indications of a fine furrow in xx to xxiii but only on the dorsum and on one side or the other; xxv to xxvii, erratically and irregularly annulated with the somital limits unrecognizable.

Dissection was not attempted.

The above description differs from Ingram's in small details: both suckers are unpigmented; the venter, maculate, not plain; only the posterior abdominal somites (xxi-xxiii) show a secondary furrowing on a₃; the female pore is in a₃, not between the two annuli of xii. With more material, these differences might be found to have some minor significance.

The anterior sucker and dorsum of somites v to viii have been damaged by a wound commencing slightly to the left of the mid-dorsal line at the margin of the sucker which is divided to the base into two separate parts, the right the larger, and the wound continuing obliquely over the dorsum of v to viii. The cut edges of the sucker and the wound on the anterior somites have healed.

The sucker damaged to this degree could not serve as an organ of attachment in the manner recognized as essential for the insertion of the proboscis, and feeding; but the indications are that the leech is in good condition and that there has been no interference with its nutrition.

The species is recognizable in the simple form; absence of eyes, tentacles, tubercles, pulsatile vesicles; the secondary, incomplete furrowing of the annuli; the plain dark bluish grey of the dorsum, and of the venter of the pregenital and genital regions; the dark margins, and white venter of the abdomen. The colour and pattern are unusual and possibly highly distinctive.

A. bilobata is known (Ingram, 1957) previously from flounders, *Rhombosolea tapirina*, at Pittwater, Tasmania.

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